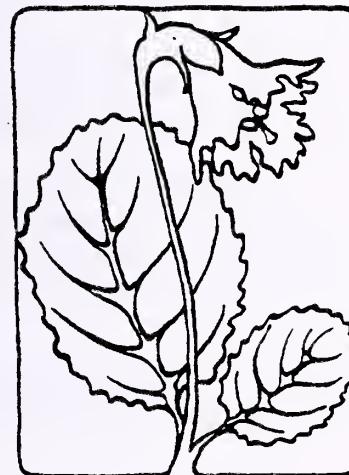


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SHORTIA

NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB

SPRING 1983



HELEN TURNER, Editor

A NOTE FROM THE PRESIDENT

One cannot approach the presidency of any organization without a heightened awareness of the credentials of those who have gone before. The most recent incumbent, August Kehr, brought to the post not only a wealth of knowledge but an enviable record of professional accomplishment.

Thanks to his expertise and leadership the Western Carolina Botanical Club has added two more proud years to its own record of steady progress, and in so doing has raised still higher the standard by which his successors' contributions will be judged.

The collective voice of our members is a small one beside the acclaim that August Kehr has already received from his peers, but it speaks both our gratitude and the hope that our cordial association will continue for a long time to come.

Dick Smith

NEW OFFICERS

At the Annual Meeting on January 28, the following were elected and installed to serve for this year:

President: Dick Smith
Vice President: Sam Childs
Secretary: Margaret Canfield

Treasurer: Margaret Kuhn
Historian: Louise Foresman

SECOND WIND AWARD

Dear Friends: How can I find words to thank you for the great honor you have given me in choosing me to receive the Second Wind Hall of Fame award at the Annual Meeting? I am overwhelmed!

It is heart warming to be reminded of some achievements during my more active retirement years: projects at The Morton Arboretum in Lisle, Ill.; the establishment of the Illinois Prairie Path; and more recently at Carolina Village and with the Western Carolina Botanical Club.

Thank you, too, for the pages of signatures and messages you wrote for me at the time of the presentation. With deep appreciation,

Helen Turner

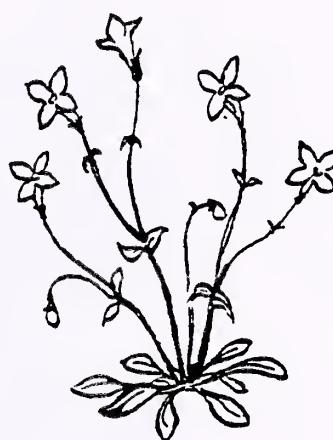
NEWS OF MEMBERS

Ken Sinish has three black and white photographs in the South-eastern Photography Exhibition at the Greenville County Museum of Art.

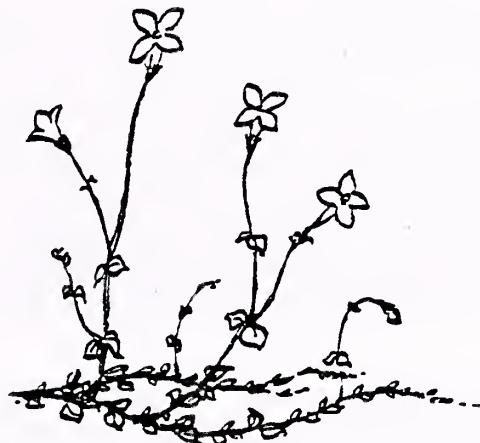
LOOK AGAIN !

Enjoying the sight of a field strewn with bluets, one's thoughts are not likely to run to questions of floral anatomy and scientific names. It is only when the individual plants are seen closely that the existence of different kinds stirs our curiosity.

Actually, our only bluets which form carpets of flowers in wet grassy areas are Houstonia caerulea and H. serpyllifolia. The tiny four-petaled salverform flowers are virtually identical - soft pale blue shading to white at the open center, which is ringed by a golden eight-rayed miniature sun. H. serpyllifolia is said to be darker in color, but since both species produce white forms and all the intermediate tints as well, that is of little help.



H. caerulea



H. serpyllifolia

Where they differ markedly is in their growth habit, H. caerulea having erect stems branching from the base, while those of H. serpyllifolia are prostrate and root at the nodes. (The specific name of the latter is from serpyllum, an old generic name for thyme, and this in turn is derived from the Latin serpere, meaning "to creep"). Also, the lower leaves of H. caerulea are long-petioled and spatulate; in H. serpyllifolia they have short stalks and are more nearly round.

A bluet of drier habitats is Houstonia pusilla - sometimes called "star violet." This might pass for a small version of H. caerulea, with flowers only half the size, but the corolla is violet and the markings in the throat are reddish-purple instead of yellow.

Dick Smith

RAMBLINGS -- PEOPLE, PLANTS AND PLACES

From the first hike in December through the second one in February 1983, we had an average of 45 persons per hike or indoor meeting -- the greatest number, 76, came to the covered dish annual luncheon meeting -- the fewest, 14, made the trip up Big Glassy Mt. Two lovely area hikes in November, Daniel Creek and Cove Creek, were cancelled due to heavy rain.

The trip to VANWINGERDEN'S GREENHOUSES was enjoyed by 48 persons -- as usual at this time of year, acres of poinsettias and African violets were in full bloom and many foliage plants were at their peak. On a very damp, cold day 14 of us braved the elements and hiked around the lake and up to the top of BIG GLASSY MT., Connemara Farms -- it was quite comfortable climbing up through the quietness of the forest but it was so windy on top we stayed for only a few moments -- the view lovely as always. The return trail led us to a sheltered outcropping of large rocks in the sun where we ate lunch.

We started the new year with an interesting trip to the BENT CREEK FOREST EXPERIMENTAL STATION -- few of us had realized that the facility is so well established or what its purpose is -- 38 persons heard Carol Young, a member of the staff, explain with the help of slides, the research being done in evaluating pine seedlings for resistance to Fusarium rust which attacks this important forest crop with oaks as an intermediate host. Another biological technician, Jim Triplett, guided us through the greenhouses where the testing is being done. From there we hiked around nearby LAKE POWHATAN -- a pleasant trip on a warm sunny day.

On another beautiful day, 45 of us gathered at the OWENS ORCHID GREENHOUSES off highway 64W on the way to Brevard. Mrs. Joyce Owens, owner, described the propagation and care of orchids and showed us the two major species they grow: the Cattleya which we usually think of as a corsage flower, and the Phalaenopsis which develops numbers of small flowers at the end of a long, curved stem. She permitted us to wander as we pleased and invited us to come back (singly, with guests, or as a group) to enjoy the blooms.

The indoor meeting on January 21 was cancelled because of a snow storm. But the turnout for the ANNUAL LUNCHEON MEETING on the 28th surprised everyone as 76 persons arrived to take part. Again, the tables looked festive, the food was delicious and the companionship was great. The meeting was animated, interesting and not too long, highlighted by election of officers. All were sorry that Helen Turner, due to illness, could not receive her SECOND WIND HALL OF FAME AWARD in person -- Dorothy Rathmann accepted it for her after an interesting presentation by Sam Childs.

The February 4th meeting at Carolina Village was a lovely look at the progression toward Spring with its profusion of wildflowers. Millie Blaha made fluid and pertinent comments on the beautiful slides. George had taken the closeups and manned the projector. This mid-Winter treat was enjoyed by 54 persons. But the next indoor meeting on the 11th was cancelled due to a snowstorm



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GYPSY MOTH (PORHETRIA DISPAR)

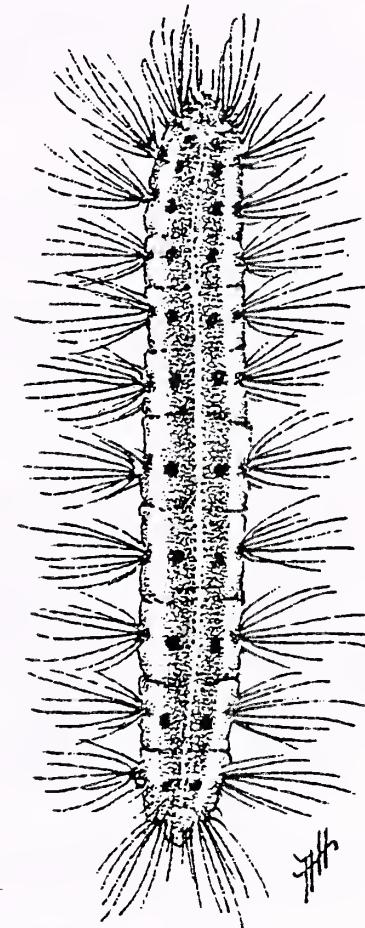
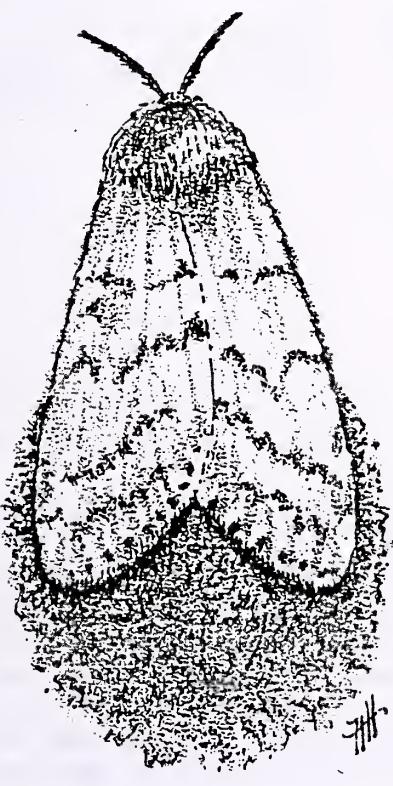
Gypsy moths have long been important forest pests in the north-eastern states and more recently they have extended their range westward and southward. Large infestations now exist in Pennsylvania and Virginia. Spot infestations have been found in North Carolina but not in our area. Gypsy moths are so important because they attack many different forest trees. They are especially damaging where trees of the white oak group predominate. Older caterpillars may feed on softwood trees such as pine, hemlock and spruce. Yellow poplar, dogwood, locust and red cedar are among the trees less commonly attacked.

Let us look briefly at the life history and habits of the pest. Female moths deposit masses of 500 or more eggs on trees, buildings, wood piles, tents, recreation vehicles, etc. The buff colored egg masses are 1 to $1\frac{1}{2}$ inches long and about $\frac{1}{2}$ inch wide. Eggs are deposited in June and remain until they hatch the following April or May. The newly hatched caterpillars, blackish in color and about $1/16$ " long, move to the tops of trees. They disperse when they drop on silken threads and are carried by the wind, often several miles. Second and third stage caterpillars

are mostly black but have orange markings down their backs. Late stage caterpillars are hairy, brown or black and from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long. Beginning at the head, they have 5 pairs of blue spots followed by 6 pairs of red spots.

Of the foliage that is destroyed, the last stage caterpillar does about 70% of the damage. Heavy defoliation results in damage to plants on the forest floor that need shade to exist. Mature larvae pupate in June-July attached to all types of objects and hence they are easily transported long distances, particularly on recreational vehicles that were in infested areas long enough for caterpillars to pupate or females to lay eggs. After a pupal stage of 10 to 17 days, males and females emerge. Male moths are light tan to brown with dark wavy bands on the front wings. They are excellent flyers whereas the larger and heavier females do not fly.

Females are mostly white with faint brown or black bands and V



markings on the wings. Moths die soon after mating and egg laying. Gypsy moth has but one generation each year.

In North Carolina only a few spot infestations of gypsy moth have been detected and these have been dealt with promptly. Of concern to us is the continuing southward march of the pest and outbreaks as far south as Richmond and Norfolk, Va. Even though the gypsy moth was introduced into Massachusetts in 1869 as a possible producer of silk, only recently has it expanded into large new areas. In 1982 an estimated 8.1 million acres were defoliated. Further, one authority stated that in 1979, '81 and '82 defoliation equalled one third to one half of the total acres defoliated in all previous years combined.

The success of the gypsy moth is influenced greatly by the weather and their natural enemies---birds, insect parasites and predators, bacterial and viral diseases. Most years a high proportion of the caterpillars never reach maturity and the forest can withstand the moderate amount of defoliation. Most spraying with insecticides and disease agents has been done in urban areas rather than in large forest tracts.

Where spot infestations are sporadic as in North Carolina, concerned agencies work cooperatively in detection of gypsy moth and in elimination of the small infestations that have been found. Detection is accomplished by placing highly effective pheromone traps at suitable distances to attract and catch males. These traps are used to spot new areas and, in greater concentration, to measure the effectiveness of controls. So far local problems found before 1981 have been eliminated and the more recently recognized outbreaks are under control. These are being watched closely to be sure the pest is gone. One new area was found in 1982 when 20,000 pheromone traps on a four mile grid were monitored.

Hopefully gypsy moth will never become a really serious pest in North Carolina and that natural forces will help restrain even low level infestations.

Elton Hansens
Aline Hansens (illus.)

I VISIT DEAD PLANTS

In an article with this title, May Theilgaard Watts, late Naturalist Emeritus of the Morton Arboretum in Lisle, Illinois, wrote:

"A juiceless, brittle, flattened plant that has not felt wind or rain or sun for 141 years may, on being extracted from its place in an arid row of steel herbarium cabinets, suddenly come alive in the hands of a botanist -- if that botanist knows that it was collected in the rain, beside a violent cascade, by a doughty explorer who had been sent out by a famous president and that it had been named three times and crossed the ocean twice. This was the story, in part, of the particular herbarium sheet that started me on the pleasant diversion of visiting dead plants.

The herbarium sheet showed the leaves and a few flowers, and bore a description and an account of the place where it had been collected written by Meriwether Lewis in slender slanted script, using the old-fashioned s that looks like an f. 'Rich soil among rocks, Grand rapids of Columbia, April 11, 1806,' it said. He named it 'Lewisia ilicifolia,' adding 'new genus,' perhaps with a feeling of satisfaction at having found a new genus, certainly with a feeling of contentment that his shrub with the shining decorative foliage, and the great golden clusters of bloom, and the blue fruits, would carry his name.....

It was [a] 'mountain holley' that Lewis chose to carry his name. But the botanists decreed otherwise. This was no new genus, they proclaimed; it must be put into the barberry genus where it obviously belonged. So it was given the name Berberis aquifolium by the botanist Frederick Pursh..... [He] carried the herbarium specimen off to England where, with some 700-1000 other specimens, it came into the possession of his patron, Sir Aylmour Bourke Lambert. After Lambert's death in 1842, his library and his celebrated herbarium were sold at auction. A benefactor purchased this sheet, with others, and sent it to the museum in Philadelphia.

But meanwhile, the botanists had polished their lenses and taken another look at Lewis's plant, and declared it a new genus after all. This time (in 1818) it was given a name honoring Bernard McMahon, a Philadelphia nurseryman who had received and grown many of the plants from the Lewis and Clark expedition and who had supplied many plants for Jefferson's Monticello. ✓ Mahonia is now its name

[At] the Gray Herbarium of Harvard University, I was shown a sheet containing a specimen that startled the paleobotanists. It was the dawn redwood, Metasequoia glyptostroboides. This sheet was from the Herbarium of the Forestry Department of the Agricultural College at the National Central University in Nanking. It had been collected at Wanhsien in northwest Szechuan Province on February 20, 1946.

The dawn redwood, according to paleobotanist Ralph W. Chaney, appears as a fossil more often than any other conifer. It must once have been widespread and abundant, but it became extinct about fifteen million years ago, from both Europe and America. The fossil record showed it surviving for a time in Japan.

One day, in 1946, a Chinese forester laid a green branch of this supposedly-extinct tree on the desk of one of his country's leading botanists.

In the remote forest where it was found, its companions were such other ancients as oaks, birches, chestnuts, katsura trees, ginkgos. Seeds were soon sent out to botanical gardens and arboreta around the world, where dawn redwoods are growing now. Against the east wall of the Sterling Morton Library, in the reading garden, is a dawn redwood; on the opposite side of the door grows a gingko. To make the reunion complete, a dinosaur should walk out through that door."

---Excerpted with permission from THE MORTON ARBORETUM QUARTERLY Vol. 3, No. 1 (Spring 1967).

S H O R T I A

Vol. V

No. 1

A quarterly publication of the Western Carolina Botanical Club

Editor: Helen Turner
Carolina Village Box 126, Hendersonville, NC 28739

Production Committee: Dorothy Rathmann, Bruce & Blanche Leech

Please submit contribution for next issue by May 15.

A REMINDER: Annual dues for 1983 are now due: Single membership \$3.00;
Family membership \$4.00. Pay to Margaret Kuhn, Treasurer
1912 Arlington Place
Hendersonville, NC 28739

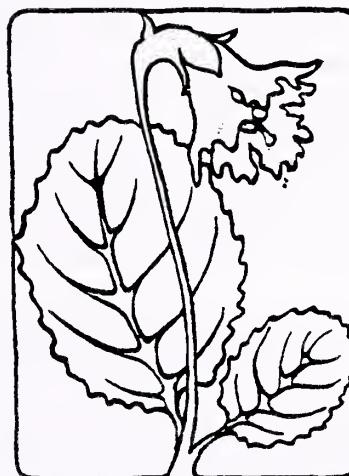
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SHORTIA

NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB

SUMMER 1983



HELEN TURNER, Editor

DID YOU KNOW?

Dick Smith reports that at a meeting on February 16, 1983, the WCBC Board of Officers unanimously elected Harvey and Verna Krouse as Honorary Members, in recognition of their dedication and significant contributions to the Club.

Again this year some of our members (perhaps 8-10) acted as tour guides at the Shinn's private gardens on the weekend of the Spring Wildflower and Bird Pilgrimage. We all enjoy this garden and the Shinns appreciate our service as they are no longer able to cope with the crowds.

Elton Hansens coordinated the preparation of a narrated slide program on THE WILDFLOWERS OF HOLMES STATE FOREST which was presented by WCBC to James A. Hurt, Environmental Education Ranger at Holmes State Forest on May 2, 1983. This program was the work of several WCBC members: the writer and narrator, Millie Blaha; the photographers, John Kuhn, Tom Keith, Dick Smith, and Elton and Aline Hansens; the art work is by Aline Hansens and the photocopies by Ray R. Kriner. It was offered to the Forest Service on an indefinite loan basis for showing to groups of visitors to Holmes State Forest and for use in the educational program both inside and outside of the forest by the Holmes staff. In the presentation, Dick Smith, on behalf of WCBC, expressed appreciation for having this State Forest nearby and for the many courtesies extended to us by the staff.

The WCBC may have a low profile but there's no denying its existence! For example, when the owners of Snowbird Mountain Lodge set about finding guides to conduct their guests on Spring nature walks it turned out that, without realizing it, they chose members of our Club as three of the four leaders. Harry Logan inaugurated the program on April 30; followed by Miles Peelle for the week commencing May 7; and by Dick Smith for the week beginning May 14. During the fourth and final week the leader was Dr. Albert Southern of Furman University. Snowbird Lodge is located in the Nantahala National Forest just two miles from the Joyce Kilmer/Slick Rock Wilderness, and the four consecutive weeks of guided hikes coincide with the spectacular displays of Spring wild-flowers for which the area is noted.

As we went to press, we heard of the death of a valued member, Blanche Leech. We extend our sympathy to Bruce.

WELCOME -- NEW MEMBERS

Hendersonville unless otherwise stated

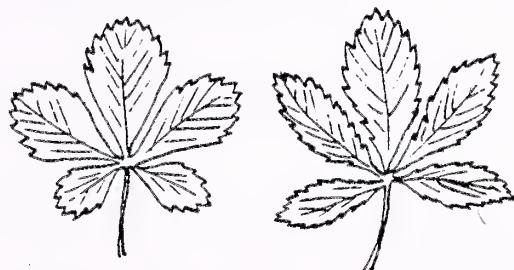
| | |
|--|------------|
| Badger, Fred & Gertrude, 217 Turtle Lane | 692-5445 |
| Craig, Elizabeth (Mrs. S.P.), 166 Surrey Lane | 891-8792 |
| Heller, Louis & Toby, 19 Lake Drive E-4 | 693-5058 |
| Holmes, (Miss) Sidney and | |
| Bivins, (Mrs.) Caroline, 300 Rainey Knob Road, Sapphire | 966-4590 |
| Janowski, A. R. & Sally, Route 2, Box 44D, Pisgah Forest | 28768 |
| Johnson, Arnold & Joy, 945 Greenwood Drive, Apt. 2 | 692-9049 |
| Kramer, Bob & Helen, P.O. Box 1626, Hendersonville | 28793 ... |
| LaBorde, Oscar (M.D.), P.O. Box 7471, Columbia, SC | 29202 ... |
| Laughrey, Robert & Marjorie, 145 Azalea Way | 697-2659 |
| Prentice, Donald, 155 Haywood Knolls Drive | |

LOOK AGAIN !

The Rose family is a difficult one for taxonomists, and includes several genera in which the "splitters" have established hundreds of (in their judgment, at least) species; the hawthorns and the brambles are notorious examples.

The genus Potentilla - the Cinquefoils - is another, but it is nevertheless a good choice for practicing wildflower identification in the Southern Appalachians, where there are only a handful of species, most of them clearly different from one another.

The only exceptions happen to be the two that are the most numerous and are encountered repeatedly in old fields, on dry banks, and along the edges of sunny woodland trails. These are often confused, and sometimes even mislabeled in field guides. They are Potentilla canadensis, or dwarf cinquefoil, and P. simplex, usually referred to as common cinquefoil. Both have long trailing stems and five-parted palmate leaves, with small yellow flowers arising from the axils. They can most easily be separated on the basis of their leaflets, which in P. canadensis are more broadly rounded than in P. simplex, where they taper gradually toward the apex. Most significant, however, is the fact that the teeth of P. canadensis are confined to the upper half of each leaflet and seldom number more than five on each side, while P. simplex has more and they extend along virtually the whole margin.



The name "cinquefoil" denotes five leaflets, but there is only one other distinct species in our area that follows this rule. It is Potentilla argentea, or "silvery" cinquefoil, so-called because the undersides of its narrow, revolute leaflets are covered with silky white hairs.



P. tridentata

Potentilla recta, or rough-fruited cinquefoil, an erect plant with large, handsome sulfur-yellow flowers, has leaves which usually are seven- or nine-parted. Going in the other direction we find P. norvegica and P. tridentata with only three leaflets. The latter is the white-flowered "wine-leaved" cinquefoil, a boreal species restricted in the southern United States to high balds and ridges.

Dick Smith

ROAN MOUNTAIN

Our Club plans an annual trip to Roan Mountain where we see many beautiful flowers and shrubs. We usually start at Carvers Gap and some of our group get as far as Grassy Ridge, while others stop at Jane Bald. This is only a small segment of the Highlands of Roan. Some of us have been over the entire length of the Highlands and we can assure you it is a beautiful area from one end to the other. The Southern Appalachian Highlands Conservancy is an organization dedicated to the preservation of this area. In a recent issue of their publication, THE HIGHLANDS BULLETIN, was an article entitled "A Summer on Roan" by Ron Vance who teaches biology at Cloudland High School in Roan Mt., TN. As caretaker in the summer of 1982 he patrolled the Appalachian Trail, kept an eye on SAHC property, worked on trail rehabilitation, talked with hikers and led nature walks. We think you will enjoy his comments:

"Throughout June and into mid-July, I counted close to six hundred Gray's lilies, an indication that they are doing well -- much better than in 1977 when the last count was taken. The most blooms counted on an individual plant was fourteen on Big Hump Mountain on June 22. The point of lowest elevation where Gray's lilies were found was Low Gap. Other plants of interest, location and count were:

Purple fringed orchid - Hump Mountain, Carvers Gap (22)

Orange hawkweed - Roan High Bluff (1)

Ragged fringed orchid - Round Bald, Carvers Gap (6)

Small green wood orchid - Round Bald, Roan High Knob (100+)

Mountain avens - Low Gap, Grassy Ridge (21)

The black bear seem to be increasing in population. My dog and I encountered one on Eagle Cliffs, and plenty of fresh signs were observed on top of and below Grassy Ridge. Deer signs were often observed in Engine Gap, Low Gap, and most abundantly in Yellow Mountain Gap. I saw one red fox and signs of others. Bobcat tracks and signs were seen from Round Bald over to Jane Bald. Squirrel and rabbit signs were plentiful. However, no Snowshoe Hare was seen.

I was able to record numerous sightings and sounds of birds. Among the most unusual were the Barred Owl (one at Low Gap), Sharp-shinned Hawk (3 at Carvers Gap), and Saw Whet Owl (heard three times in June, twice by me and once by Jennifer Garland, state park naturalist).

I had many adventurous experiences, ranging from rescuing a lady and four small children from a downpour of rain to walking on top of a whiskey still. The summer of 1982 was about the most memorable of my life. I invite your inquiries regarding my summer or about other information that I might provide."

Anyone wishing to make a contribution to help preserve this area, please send it to Southern Appalachian Highlands Conservancy, P.O. Box 3356, Kingsport, TN 37664.

Bruce Leech

NORTHERN BIRDS IN SOUTHERN HIGHLANDS

5

Flowers such as yellow clintonia (Clintonia borealis) and wood sorrel (Oxalis montana) arouse excitement in a botanist wandering the Canadian life zones of the southern Appalachians. These plants are typically northern, but here in our mountains they extend their range far south of their normal habitats at lower elevations. The botanists may not be aware, however, that close by several species of northern birds may be nesting, they, too, finding the southern extension of the Canadian zone hospitable.

A rapid and prolonged succession of high, tinkling warbles and trills reveals the presence of the winter wren, a dark, diminutive bird more often heard than seen. A series of three or four rolling, descending notes is a message from a veery, a ground nesting thrush. Much less musical is the croak of a raven, frequently heard as the bird flies by or soars along a ridge.

Those familiar chickadees at our feeders are Carolina chickadees, whose range extends up into mid-Atlantic states. At high elevations we find the black-capped chickadee, far south of its usual range (north of mid-Ohio or Pennsylvania). Other small birds of the Canadian zone's spruce-fir forests are red-breasted nuthatch, golden-crowned kinglet, and brown creeper. Especially active and colorful are several species of warblers which frequent our high mountains as well as some wooded areas just below the Canadian zone. The bright orange breast of the Blackburnian warbler and the black necklace on a yellow breast of the Canada warbler compete for distinction with the "name-described" markings of the black-throated blue, black-throated green, and chestnut-sided warblers.

If you are alert in noting the spot along the trail where a junco flies up, you may find a ground nest concealed amid plants and decaying leaves. This northern species summers in the high elevations, migrating down the mountains to share your feeder fare in winter.

So -- stop, look, and listen, and you will find that the north reaches south not only with its plants, but also with its birds.

P.S. -- While on the Botanical Club field trip to the Smokies in early May we enjoyed hearing several of these "northern birds", especially the winter wren and black-throated blue warbler.

Tom Hallowell

NOTICE: Many WCBC members remember our first president, Lincoln Highton. Along with many other interesting projects, Linc kept a file of small plant specimens on index cards, most collected in the 1930's. After his death, the family gave these to Barbara Hallowell. She has stored them for years, but feels they should go to someone who will make more use of them. About 50 lichens are represented, 50+ mosses and a small assortment of Lycopodiums and small flowers. If you are interested call Barbara at 692-4316.

RAMBLINGS -- PEOPLE, PLANTS AND PLACES

Five indoor meetings and 15 hikes in the past three months have kept WCBC members happily "on-the-go." Seventy-five persons were present for the informative slide presentation of the Hallowell's trip down the COPPERMINE RIVER, NWT, CANADA. The Peaveys and Larry Kenyon told of their trips to SWITZERLAND, THE NETHERLANDS AND ENGLAND -- 53 persons present. Dick Smith took us across OUR COUNTRY AND THE MOUNTAINS OF CANADA with beautiful slides of wildflowers and a most informative commentary -- 66 persons present. Elton Hansens had us all fascinated with informative comments on his slides of INSECTS AFFECTING MAN. A slide show of GRECIAN RUINS presented again by Harry Logan gave the 23 persons present a good picture of the countryside.

The HARDY SOULS hike at the end of February went up Black Mt. again -- no snow this year but chilly! Notably, the lichens, mosses and fungi were prolific along the road. The RAVEN CLIFF FALLS hike was cancelled at the meeting place due to heavy rains during the night having made the trail dangerously muddy. Instead Dick Smith led 21 persons to PLEASANT RIDGE STATE PARK, SC, a lovely area on what turned out to be a sunny day. We noted Houstonia pusilla, prolific bitter cress, long-spurred violet among others. Rains again made the river impassable at Augerhole so Peggy Camenzind and Nan Morrow took 35 of us to LAKE JOCASSE instead -- whole fields of field pansy (Viola rafinesquii) on the way; Shortia covering a ravine and hillside, an absolutely beautiful display of large flowers and lush, bright leaves. Harry Logan led 11 persons to LAUREL RIVER GORGE where Service berry, at peak, were thick and beautiful. Many wildflowers in bloom and some in bud, all recorded by Millie Blaha as substitute historian. (Thanks again, Millie.) The COWPENS trip led by Ben Tullar had 12 persons wandering on side roads and in fields to identify 15 wildflowers.

The hike scheduled for MILLIE PEARSON'S was cancelled by rain. But the next Monday, a report that there were few flowers at Kanuga Conference sent us, after all, to Pearson's. Millie graciously accepted 25 of us on short notice -- for a profusion of violet species, bloodroot, hepatica and many other wildflowers and, of course, lunch by Millie's rushing, beautiful stream. Rain cancelled the trip to GREEN COVE but in the afternoon 3 WCBC members did go and were guided around the trails by Frank Bell. MAIDENHAIR FALLS, a new trip for many, was also cancelled by rain. Ivan Kuster took 48 of us into the GREEN RIVER COVE area where we hiked along Laurel Creek, a lovely forest area with hillsides of trillium, large patches of purple phacelia, showy orchis in profusion as well as dwarf Canada violets, wood anemone and walking fern on a big boulder. The green violets (Hybanthus concolor) were numerous. Another change: the Blue Ridge Parkway road was closed on the way to Paul's Gap area, Cataloochee Valley, so out came maps and finally a decision made to visit the DEEP CREEK CAMPGROUND area -- a lovely choice -- a forest loop trail along the creek and even a bench in the sun just long enough to accomodate all 11 of us. Birdfoot violet, rue anemone, brook lettuce, bluets in profusion, as well as 13 species of ferns. On the same day, the alternate hike on DAVIDSON RIVER was enjoyed by 20 persons led by the Tabers. Thirty-three persons hiked along a stream and through the woods near the NORTH SLOPE OF MT. PISGAH with lunch at a waterfall, and saw stonecrop, henbit, corn speedwell,

nodding mandarin as well as many others. Although Harvey Krouse now lives some 100 miles away, he returned to take 27 of us to CEDAR CLIFF MT. We looked especially to find the golden club, shooting stars, wild geranium, emarginata and birdfoot violets, vetch and ginseng. The SMOKY MT. weekend was great with 19 of us enjoying hikes on the Smoky Mt. Trails - NE Section with Bill Verduin as leader. This is an incredible forest area with its lively stream and unusual rock formations. We found sicklepod, snakeroot, ginseng, Fraserii sedge, marsh violet among other flowers. The camaraderie, the "happy hour" at picnic tables on the lawn at the motel, the orange and green trolleys we took into downtown Gatlinburg -- all made two days of real fun! BARNARDSVILLE is always an enjoyable trip -- this time 17 found dwarf spring larkspur in profusion, Indian paintbrush, golden seal leaves, white spotted mandarin, the American fly honeysuckle, red-berried elder and very large Trillium grandiflorum.

As you have gathered, the weather this Spring has been a bit uncooperative -- cold early mornings and heavy rains enough to cancel a number of trips. Then too, many wildflowers seem to be from 10 days to two weeks behind schedule so that we have not been seeing all the wildflowers we had hoped.

Louise Foresman, Hostorian

IMPORTANT BOTANICAL CLUB NOTICE

NEW! NEW! On Monday, August 15, the Botanical Club will try something really new for us--a Learn and Share session. Have you had some nature-oriented subject you wish you knew more about and have just never gotten around to investigating it? Maybe something like: Who introduced Japanese honeysuckle to the USA and why and where and when? or how do mud daubers make their strange nests and what's in them? or what educational programs does Holmes Park have for local school children? or what makes plants grow toward the light?

Procrastinate no longer! Here's your chance! Look for, dig for, ask about, find out the answer to your question and then share it with other members of the Botanical Club. We'll be interested, too! Maybe you already have some bit of information that really intrigues you and you'd like to share that with us. Fine!

We'll sit around comfortably in Nan Morrow's yard (or in the house if weather is bum) and chat informally about the various subjects introduced. Each person with something to tell will have 1-10 minutes, and if you have props or materials or references or pictures to show, great! Remember, we're not looking for polished presentations, just the fun of hearing what interests you and learning about it ourselves. You are welcome to come, of course, whether or not you present a topic.

We estimate a couple hours of learning and sharing in the morning, then lunch (you bring it, as usual). If interest burns brightly, we may carry over a wee bit into the afternoon.

IMPORTANT! Those who have a subject to tell about should call Barbara Hallowell (692-4316) to sign up. Please call before July 28 or after August 10.

S H O R T I A

Vol. V

No. 2

A quarterly publication of the Western Carolina Botanical Club

Editor: Helen Turner
Carolina Village Box 126, Hendersonville, NC 28739

Production Committee: Dorothy Rathmann, John & Margaret Kuhn

Please submit contribution for next issue by August 15.

A REMINDER if you have not yet paid your annual dues: Single membership is \$3.00 and Family membership is \$4.00 payable to Margaret Kuhn, Treasurer, 1912 Arlington Place, Hendersonville

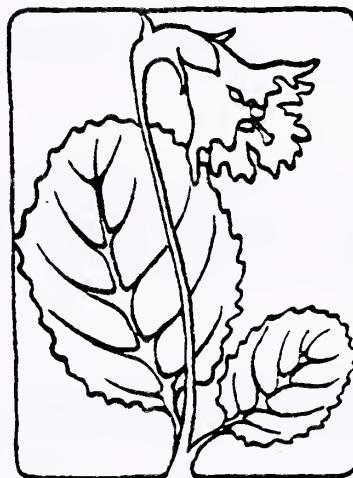
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SHORTIA

NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB

AUTUMN 1983



HELEN TURNER, Editor

OFFICERS

| | | | |
|-----------------|-------------------|------------|-----------------|
| President: | Dick Smith | Treasurer: | Margaret Kuhn |
| Vice President: | Sam Childs | Historian: | Louise Foresman |
| Secretary: | Margaret Canfield | | |

DID YOU KNOW?

Eagle-sitting isn't often on one's date calendar! In late July Tom and Barbara Hallowell had the delightful responsibility of tending the five young golden eagles caged before release on Tennent and Black Balsam Mountains. "We helped just two days," Barbara said, "but being a part of the project and experiencing dusk, night and dawn on the mountains as well as the familiar daytime scene was just plain wonderful -- with a full moon to top it all." The eagles are part of the NC Eagle Restoration Project. It is hoped they will return to nest in the area where they fledged.

If you have missed seeing them on some walks, Bruce Leech and George Oldham have been volunteers, helping maintain the Appalachian Trail in Pisgah National Forest.

Sam Childs, president of the local Rock Garden Society chapter, and other WCBC members checked out trails and were otherwise active in preparing for the American Rock Garden Society's fiftieth convention to be held in Asheville next year.

It is with sorrow that we report the death of Mrs. Shinn. Many of us have guided visitors through the beautiful Shinn gardens, where we were always greeted with warmth and cordiality. Our deep sympathy goes to Mr. Shinn.

Among the many classes during the last week of June at the National Wildlife Federation Summit at Blue Ridge Assembly in Black Mountain were ones on native ferns by Barbara Hallowell. She also led fern walks and, for the opening night feature, presented her program, TIME TO WONDER.

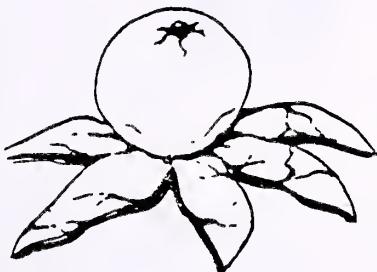
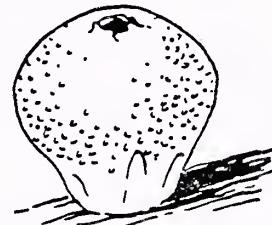
WELCOME -- NEW MEMBERS Hendersonville unless otherwise stated

| | |
|---|---------------------|
| Allen, Dwight & Minnie, 107 Yardley Court..... | 692-2329 |
| Boyd, Dr. Howard & Mrs., Route 4, Box 292, Brevard | 28712.... |
| Deskin, Richard & Elsie, 123 Turkey Run, Route 1, Sherwood Forest, Brevard | 28712..... |
| Kent, Sam & Ann, 25 Oakwilde Drive, Asheville | 28803..... 684-6469 |
| McEver, Marie, Route 4, Box 346..... | 693-4425 |
| Saby, John & Mary, 8 Tamarac Terrace | 891-9509 |

LOOK AGAIN !

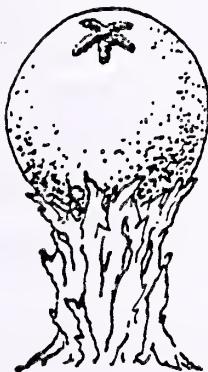
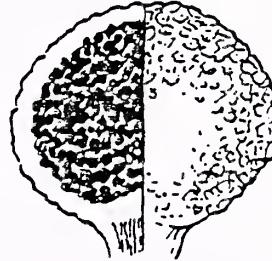
Of all the variously-shaped fungi, few are more fascinating than those whose spores are contained inside of spherical fruiting bodies. They belong to the Order Gasteromycetes ("stomach-mushrooms"), and it is tempting to lump them together loosely under the name "puffball". Identification of species can be tedious, and it will be enough here to differentiate between four common genera.

Lycoperdon is one genus of the true puffballs, which are stalkless and have a thin shell often covered with fine granules. Illustrated is L. pyriforme, light tan in color, growing on wood. It is filled with a soft, white fleshy spore mass (gleba) which at maturity changes to a fine, dry brownish powder, and this is ejected through a pore which opens at the top. (True puffballs are edible, but there is not enough space here for noting the precautions one should take against misidentification).



Now picture a puffball sitting on a star-shaped cookie, and you have an approximation of an earthstar, or Gastrum. These have two walls the outer of which splits evenly into rays and curves downward. The spores are then released through a rupture in the inner wall. Some earthstars have hygroscopic rays - i.e., they not only open and prop up the spore sac in wet weather, but close back over it when dry.

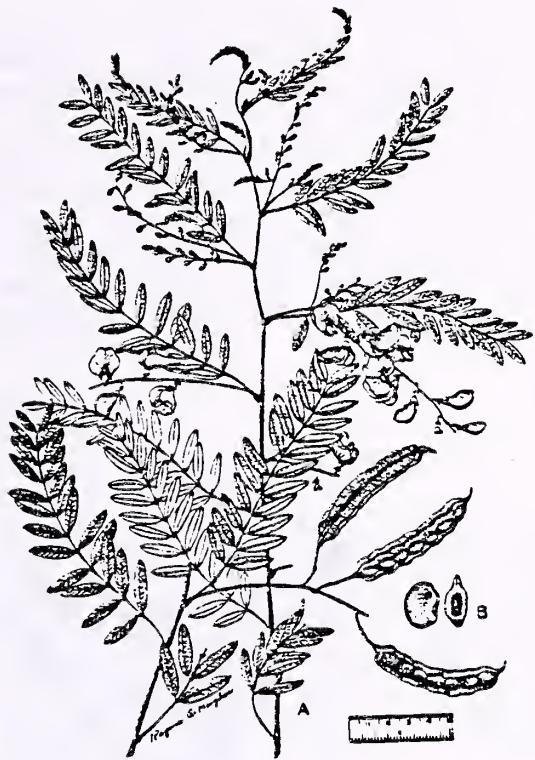
A third type is the earthball, or Scleroderma, which has an outer wall that is warty and, as the name implies, hard. It also is thick like that of the earthstar, but splits irregularly rather than into symmetric lobes. In immature earthballs the gleba is purplish, never white as in the true puffballs.



The stalked puffballs include a very unusual species, Calostoma cinnabarinum, which is common along woodland roadbanks. Its outer covering is actually a translucent amber jelly. After this sloughs off, the thick stalk takes on the appearance of dry sphagnum moss. The exposed "ball" is tawny orange, topped by an asterisk made up of raised red welts. These ridges eventually break open, allowing the spores to escape.

Dick Smith

CANCER INHIBITOR FOUND IN NORTH CAROLINA PLANT



Seeds of a plant that grows in North Carolina and six other States, called coffeebean, rattlebox and other common names, has been found to contain a potent cancer inhibitor according to a report at the March 24, 1983 American Chemical Society Symposium.

The plant, Sesbania drummondii, is a legume. It produces sesbanimide which demonstrated antitumor activity "at exceptionally low dose levels" in mice with leukemia. Sesbanimide also was demonstrated to inhibit cells of human carcinoma growing in cell cultures in Cancer Institute assays. The extract from this plant resembles an antibiotic produced by soil bacteria. Its chemical structure has a relationship to cycloheximide, which in turn is produced with streptomycin by soil bacteria. The research was done by a team from the U.S.

Department of Agriculture, Purdue University and Cornell University.

Sesbania drummondii grows in several southern States in ditches, waste places, fence rows in the coastal plain area. A related plant, Sesbania exalta, grows further inland, almost to the mountains. (This is not the "rattlebox" we have seen on our walks.)

August E. Kehr

A COMMENT FROM OUR PRESIDENT, DICK SMITH

Ever stop to think how many of our activities take place in National Forests, on the Blue Ridge Parkway, or other National Park lands? Certainly, enough for us to take a serious interest in protecting these facilities from wildfire, vandalism, crime and related problems. Each Service has instituted a program -- similar to "Community Watch" -- for confidentially reporting suspicious or illegal activities. Put these telephone numbers in your wallet or pack; then, as soon as you reach a telephone, call in the location of the incident, description of people involved, license numbers of vehicles, etc.:

FOREST WATCH (Toll-free)

1-800-222-1155

(Any time day or night)

PARK WATCH (Call collect)

704-258-2850, Ext. 701

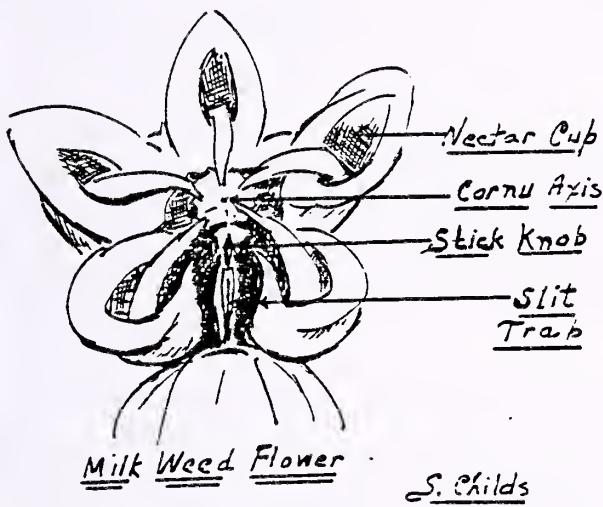
(Monday - Friday, 8 AM to 5 PM)

704-258-2808

(Weekends and Holidays)

POLLINATION AND THE MILKWEED FLORAL TRAP

Cross fertilization by wind or insect contact is familiar to the botanist. Less so, is a trap to insure cross pollination. At the "Look-See" display at the Hallowell's we could see the narrow trap slit on the sides of the central cornu axis of the milkweed flower. Inside, not visible, and towards the center, hidden pollen bags and ovules of limited number were awaiting ripe pollen to arrive and complete the fertilization process. The pollen sacs pressed tightly to the innermost ovules develop at different rates, so that it is necessary that the contained sacs be removed to allow ripe sacs to be inserted. This means that the slit trap has to be used twice.



To attract insects to remove and insert pollen bags, odors secreted in cups develop. These cups are highly polished and, as the insect descends, it slips and tries to work its way upward. In so doing, legs thrash and, sometimes, push into a slit trap. Note in the sketch the "slit," cups and slick knob. Like a vise, the leg is held in place while the hooks and claws entangle on the threads or sides of the pollen sacs. When the insect escapes (occasionally it dies in the trap), it may become trapped again in another flower.

with more ovules ready for fertilization. In search of more nectar, the laden insect must once more be trapped and the pollen sacs thrust into the central cornu axis that has had its own pollen sacs already removed. Also the central area with its fertile ovules must have ready enzymes to dissolve the pollen sac walls. These enzymes also stimulate the pollen to grow and release its male nucleus near and into the egg cell. The frequency of fertilization is, in consequence, very low.

If you examine umbels that are fading, perhaps you may find only one or two flowers that have been pollinated. If this is the case, why so many seeds per pod? The answer is relatively simple: one fertilization equals one seed normally, but in the milkweed the fertilized egg immediately "clones" and thousands of duplicate embryos result. This is known as Polyembryony. In the Fall field trips, we can once more observe the drifting wind-blown seeds, each a precious clone of a single fertilization by an accidentally trapped, thirsty insect. ~

Miles L. Peelle

RAMBLINGS -- PEOPLE, PLANTS AND PLACES

Twenty-eight hikes made for a busy schedule these past three months. Despite the heat, we had an average of 25 people on the trips (12 trips under 20); 5 trips were cancelled due to rain. Every hike was most enjoyable and, on all, we saw many flowers. However, due to space it is possible to highlight only a few. One-flowered cancerroot, mountain meadow rue, umbrella leaf and lyre-leaved sage were special on the DANIEL CREEK TRAIL. Jeanne Smith, on the HORSE COVE TRAIL, noted the swamp pink, pink lady's slippers, primrose leaved violet and 4 species of trillium. On the DUPONT property the beautiful fringe tree was in full bloom as well as the lead plant, cudweed, cowheat, marsh violet, Bowman's root and climbing fern. A beautiful day on the LOOKING GLASS ROCK TRAIL -- a lovely forest area and we all made it to the 4,000 feet top where the view was great! SHERWOOD FOREST with the Blahas provided many flowers in bloom along the various trails and afterwards a look at the wildflowers in the Blaha's garden.

The June covered dish supper at HOLMES STATE FOREST drew a crowd as always and was special since James A. Hurt, Environmental Education Ranger, screened the program "Spring Wildflowers of Holmes State Forest" and, on behalf of the N.C. Forest Service, presented the Club with a Service Award Certificate in recognition of its contribution of slides. He stated that the program had already been viewed by more than 2,000 persons.

On the CAT GAP TRAIL the spreading pogonia (Cleistes divaricata) was found. Twenty-two of us enjoyed the WAYAH BALD - BURNING TOWN GAP overnight trip. On arrival we were met by Mary Ann Lindley and friends, botanists from Franklin, who took us to Standing Indian Campgrounds for lunch and then led botanizing on the roads nearby -- the flowering azaleas were spectacular and there were many other flowers blooming. Back to the motel -- so sorry we disturbed that truck driver's (?) nap with our noisy happy hour! Dinner, a pleasant one at the Ristorante in town. The following day on the back-roads, along the Wayah Bald trail and deep into the forest the azaleas were blooming in profusion ranging from a peppermint-striped white, yellows, to bright red. Tassel rue, waxy meadow-rue, yellow vetchling, wild indigo, bird's foot violet, and mountain saxifrage were seen, to name a few. In all a good trip botanically and otherwise, and we especially appreciate the assistance given us by the Franklin group.

There is always a profusion of flowers on the BEARWALLOW MOUNTAIN TRAIL: Deptford pink, black knapweed, bittersweet nightshade, wild yellow flax, cat's ear, downy skullcap, leather flower and Venus looking glass, to name only a few. ROAN MOUNTAIN is a special trip -- Gray's lily, white cinquefoil (tridentata), Robbins' ragwort, sheep sorrel, wild chervil and mountain sandwort (greenlandica) all in profusion -- with views lovely "on top of the world." Then, something new on which Barbara and Tom Hallowell spent much time and effort: a CLOSER LOOK around their cabin area; everyone participating found it most informative and enjoyable. Kudos to the Hallowells!

The spectacular display on the SHUT-IN TRAIL off the Blue Ridge Parkway is unexpected --a breathtaking view of hundreds, perhaps thousands, of Turk's cap lilies, whole hillsides of oxeye (false sunflowers), black snakeroot, and Joe-pye weed -- all in a profusion seldom seen! Along the Balsam and Camp Alice trails on MOUNT MITCHELL, the green wood orchis, cinquefoil (yellow norvegia), spinulose wood fern, climbing false buckwheat, angelica. On the BLUE RIDGE PARKWAY, the tall bellflower, silky swamp dogwood, blazing star (Liatris spicata) and field thistle.

The covered dish supper in HOLMES STATE FOREST in August was enjoyed by 45 persons, some 25 of whom took to the trails with Sam Childs leading the long and John Kuhn leading the short trail hikes. Afterward, Elton Hansens really interested the group with his presentation on "bugs" and other phenomena found in the forest nearby -- in all a good get-together. The LEARN AND SHARE session at Nan Morrow's home had 14 of us exchanging ideas, reports of new studies and their implications, research on liverwort, slime mold and accompanying growths one could see and discuss -- and about mycorrhiza, a symbiotic association of a fungus with the roots of a tree and now found to stimulate the growth of said tree -- something new which all seemed to find most interesting and worthwhile.

Louise Foresman, Historian

ADDITIONAL COMMENTS ABOUT A CLOSER LOOK

On July 18, Barbara and Tom Hallowell, assisted by Millie Blaha, at Hallowell's mountain cabin, gave 30 Club members the opportunity for a closer look. Each group of ten was rotated in the three different areas. It was a very interesting and unusual program and they are to be complimented for all the thought, time and preparation for the day.

Did you recognize the small pancakes stuck on sticks as mushrooms? Or the dollar bill wrapped around the stem of a weed? How about the Iris seed pods on a goldenrod stem, looking as if they belonged there? Surely, you wouldn't expect a "partridge" to be sitting in a dogwood? And there's a snake! That's no snake -- it's a coiled up strand from an arm-shoulder exerciser. Certainly that sea shell and the horseshoe crab didn't feel at home in the mountains of North Carolina. And how could a mimosa branch grow out of a hemlock? It can't be -- there's a butternut fruit growing on a locust tree. There were many, many other things to be found and identified that made the whole exercise fun for all.

I do not believe that anyone had the least trouble identifying the two jugs of punch and the large plate of cookies that were served as we enjoyed lunch on the spacious porch. Much credit is due to Barbara, Tom and Millie for the planning and execution of this interesting meeting.

S H O R T I A

Vol. V

No. 3

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Editor: Helen Turner
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Production Committee: Dorothy Rathmann, John & Margaret Kuhn

Please submit contributions for next issue by November 15

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SHORTIA

NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB

WINTER 1983-84



HELEN TURNER, Editor

OFFICERS

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| President: | Dick Smith | Treasurer: | Margaret Kuhn |
| Vice President: | Sam Childs | Historian: | Louise Foresman |
| Secretary: | Margaret Canfield | | |

NOTICE OF ANNUAL MEETING

The Annual Meeting and Election of Officers will be held on Friday, January 27, 1984 in the Parish House of St. Johns-in-the-Wilderness Church. The meeting will be called to order promptly at 11:00 AM, to be followed by a covered dish luncheon.

Members of the Nominating Committee are Ben Tullar, Martha Taber and Win Newcomb.

DID YOU KNOW?

We have two address changes:

Ben Tullar's new residence is 1041 Blythe St., # 502, Hendersonville.

Miles and Eleanor Peelle have returned to his Bok Tower project in Florida. Their winter address is: 151 Buckeye Terrace, Haines City, FL 33844.

We extend deep sympathy to Gladys Mulvey at the death of her husband.

Reports coming in from all over the Eastern US have been enthusiastic and positive about Anne and Barbara Hallowell's FERN FINDER. Reviews in various publications, including one in the American Fern Society's newsletter, have been highly favorable. A second printing is scheduled for September; the first was 15,000! Cheers for FERN FINDER and its authors!

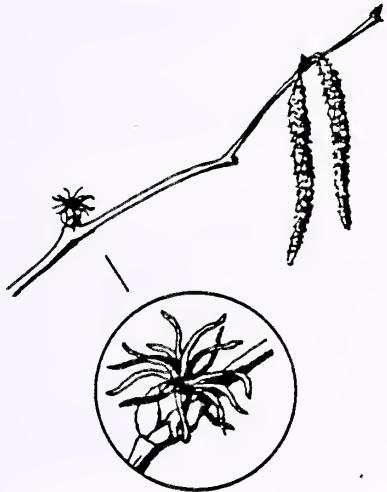
WCBC members are again giving courses at Blue Ridge Technical College: Harry Logan on Landscaping for the Homeowner; Tom Hallowell about Birds (so many students registered that the group was split into two classes); Elton Hansens on Knowing the Insects.

WELCOME -- NEW MEMBERS Hendersonville unless otherwise stated

| | |
|--|----------|
| Frye, Mrs. Helen, PO Box 152, Lake Toxaway, NC 28747..... | 966-4039 |
| Gadd, Charles & Frances, 218 Pleasant Run..... | 692-1075 |
| Jelliff, George & Gladys, Rt. 2, Box 493, Easley, SC 29640.. | |
| Sewell, Winnefred E., 1040 Greenwood Dr..... | |
| Steele, Bernice M., 12 Friar Tuck Lane, Sherwood Forest, Brevard, NC 28712..... | 885-2085 |
| Willis, John G. & Anne C., Route 4, Box 540E..... | 891-4170 |

LOOK AGAIN!

Without leaves or flowers, winter identification of woody plants depends principally on examination of the twigs, with their buds and other features. Carrying on this activity into late February brings with it the chance of coming upon the blossoms of one of the very earliest-blooming shrubs of the year, the hazel.



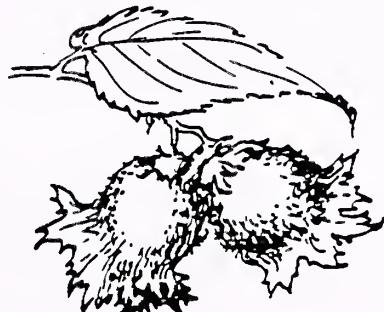
The staminate catkins are not especially remarkable, looking pretty much like those of other members of the birch family; it is the pistillate flowers that are worthy of a close look (use a hand lens, for they really are tiny). These flowers are gathered into clusters and even at this late stage are almost entirely concealed by bud scales. All that protrudes is a bunch of stigmas - less than three millimeters long, but a glistening ruby-red. Were it not for their small size, the astonishing color would make them light up the late winter woods like lanterns.

The flowers do not, however, help us to decide whether we are looking at American hazel (Corylus americana) or beaked hazel (C. cornuta), so if we wish to know we must go back to studying the twigs. There the evidence is plain, but don't put the lens away. The twigs of C. americana will be densely beset with bristles and stalked glands, while those of C. cornuta will be smooth or at most will have a few scattered soft hairs.

Final proof of their identity will not come until fall, when the faintly pungent nuts - sometimes called filberts - ripen, but it is very positive! Hidden by the scales beneath the red stigmas were minute bracts,



and these have now grown enormously, the pair subtending each flower forming an involucre to completely enclose the nut. In C. americana they resemble leaves, with their raggedly cut edges, but in C. cornuta they fuse together and are prolonged far beyond the nut into a narrow, tubular beak.



Dick Smith

BOOK REVIEW: FUNGI, DELIGHT OF CURIOSITY

Fungi that trap eel worms -- in less than a second.

Microscopic molds -- only a dozen cells.

The sphere thrower -- extraordinary power.

Water guns -- one of nature's most remarkable mechanisms.

Since early spring we have searched for and found beauty of color and of form. How oft have magnifying glasses been passed around better to see the marvelous architecture of milkweed flowers. Even in the dead of winter (I dislike that phrase) we see all around us the beauty of form in the skeletons of deciduous trees and in the great hemlocks and pines as they show off their beauty without competition from the hardwoods. Winter is, also, a great time to expand our appreciation of nature by delving into what could become a deeper and more lasting satisfaction: the beauty of function and process.

Dr. Harold J. Brodie, in a fascinating book, FUNGI, DELIGHT OF CURIOSITY, challenges us to look for beauty in the unlikely area of molds and fungi. "When it comes to function and process and the intricacies of structure related to function, he who cannot find beauty in the drabest mushroom needs to look again, and look also to his own ability to perceive." This little volume of only 125 pages -- would it were 500 -- is one of the most interesting books I've read in recent years. In clear, easily understandable English, Dr. Brodie introduces us to some of nature's "unbelievables" that put Ripley to shame.

Take, for example, the sphere thrower, a tiny fungus seldom more than one-sixteenth of an inch across -- but what power! When the spore case ripens, this lowly fungus "hurls its tiny cannon-ball projectile to a distance of several hundred times as great as its own width" with six different layers of mycelia each making its own contribution.

How about a wild-west microscopic mold that with great agility springs a trap of its own design to catch eel worms from which it then absorbs the nutritious "innards." The whole trap consists of only three cells and the action takes only one-tenth of a second! Just an ugly old mold growing in the ground. We will never see it, but just knowing it's there makes the world a more interesting place.

And then there's the ever pervasive matter of sex. Scientists don't call it male and female in most fungi; they refer to "plus" and "minus" but don't be fooled, it's the same old game of "let's get together sometime." Consider the Laboulbeniales (sorry, no other name), molds so small that they grow on the bodies of insects -- a few species even on the bodies of mites! (Have you seen a mite recently?) There are several hundred species; some consist of only a dozen or so cells. But wouldn't you know, even these have male and female appendages.

Curl up with this book some winter evening. (The Hendersonville Library has a copy.) You won't be sorry. You'll surely gain a new appreciation for what is out in those woods we cherish, even if you never actually see a single specimen of Dr. Brodie's marvels.

Bill Verduin

WCBC EXHIBIT AT HENDERSONVILLE LIBRARY

During the month of December one of the cases inside the main entrance to the Hendersonville Library will contain an exhibit about WCBC featuring our shoulder patch and three major areas of activity: Exploration -- illustrated with maps, our calendar and field guides; Education -- including the slide program for Holmes State Forest, books and pamphlets; Preservation -- with information about endangered species. Live specimens will be changed frequently during the month. Many WCBC members participated under the leadership of Ken and Bessie Sinish: Dick Smith, Aline Hansens, Sam Childs, Harry Logan, Millie Pearson. This is a new type of activity for WCBC.

A BOTANICAL TIDBIT

Trillium grandiflorum seeds are dispersed by ants, according to research by Burton Gates in Worcester, Mass. Since his early observations were published on July 14, 1939, several species of ants have been observed carrying seeds of bloodroot, hepatica and bellworts. An oil substance attracts the ants. It is produced in a special flange on the margin of the seeds. The function of this structure, the Elaisome, had long puzzled botanists. Since the attractant has the odor of dead insects, several species of ants which are scavengers on dead insects are fooled and, in consequence, carry the seeds back to the nest where in years that follow they may germinate and start a cluster of new trilliums or bloodroots.

Miles Peelle

RAMBLINGS -- PEOPLE, PLANTS AND PLACES

On September 2, we reverted to our one-a-week hiking schedule. Sixteen hikes and two indoor programs from mid-August to mid-November made for an active time. An average of 18 persons enjoyed each hike and both indoor meetings were well attended. All trips were most interesting -- here are a few highlights.

TRESTLE GAP is our favorite annual hike -- we found tall thistle, turtlehead, sundew, green adder's mouth, green wood orchis, green-headed coneflower, mountain saxifrage, asters and many others in bloom -- eagles, harassed by ravens, were flying up on the mountain top as we ate our lunch below on the rocks, and blueberry picking as always gave visions of muffins and blueberry buckle. The rarer, white form of monkshood, the red morning glory, black knapweed, slender gerardia, liatris, tick trefoil and many other flowers were seen on SUGARLOAF MOUNTAIN -- remember the pony that nuzzled Miles Peelle every time he stopped to identify a flower and almost ate his straw hat? Many flowers were blooming on BLUE RIDGE PARKWAY WEST -- pink turtlehead, bottle gentian, grass-of-Parnassus, cross-leaved milkwort, three birds orchid, water hemlock, buttonweed, arrow-leaf tearthumb.

On a lovely new trail on the KANUGA CONFERENCE grounds we saw ragged robin, hairy golden aster, water horehound, hedge hyssop, elephant's foot, cudweed, pitcher plant, meadow beauty and others; the hike ended with the special hospitality of the Verduins at their home. SHERWOOD FOREST is an area which, after a rain, turned out to be a most interesting hike because of the great variety of mushrooms and Dr. Tish's expert help in identifying them -- along the way, monkey flower, small-flowered false hellebore, blue-stemmed goldenrod and other flowers were blooming.

PLEASANT RIDGE STATE PARK, SC, is an interesting area to explore -- we saw Aneilema keisak, a flower rare in the mountains, false boneset, arrow-leaf tearthumb, pencil flower, water shield, seedbox and others. OGLE MEADOW is a treasured hike mainly because of the spectacular views of most of the mountain ranges in this area -- stiff gentians were numerous in the fields, a few closed gentians, ten species of asters, nodding lady's tresses, wingstem and others -- no snow this time, Ben! RAVEN CLIFF FALLS OVERLOOK was a trail new to most of us and those who commented felt that, although it was strenuous in part, it was well worth the effort, particularly to see the beautiful waterfall. The only flowers in bloom were gentians (decora), white lettuce (Prenanthes), some aster cutissi, white snakeroot, goldenrod -- we also saw quite a few horse-sugar and some grape fern.

As usual, Frank and Caila Bell gave us a hearty welcome to GREEN COVE CAMP. On this rainy morning, they invited us indoors and Frank read a number of pieces, including one by Chief Seattle which is reprinted at the end of this report. After the rain stopped, he led us along the hemlock trail and, later, up the mountain to see the high rope equipment used in an outward-bound type of survival program at the camp. We had trouble visualizing ourselves walking along those ropes some 40 feet above ground. Trees were beautiful, especially the meta-sequoia and gingko, and there were some 25 flowers in bloom.

CHIMNEY ROCK is liked especially for its variety of areas -- a walk through apple orchards; in the forest to the rock outcropping from which there are lovely views; on the boardwalk built along one cliff; and finally on logging roads (mostly uphill) back to the cars -- had there been no fences on Exclamation Point at the top, we might have been blown right off the mountain, it was so windy! -- on the way we noted the wafer ash shrub or small tree in bloom, mock orange, thistle, cat's ear, witch-hazel, the marginal wood fern and the mountain woodsia fern, mountain mint, sundrops and others.

The two indoor meetings turned out to be very popular. It is always a joy to hear Charles Moore and a treat to see his slides and learn of the many special orchids here in Western North Carolina. Miles Peelle's presentation of slides, specimens and sketches and his discussion on Central Florida and its unique flora interested a great many people -- a teacher who can be most informative and yet add an enthusiasm which captivates all. Thus ends our latest reports.

Louise Foresman, Historian

CHIEF SEATTLE - at the forced sale of Indian land. (From Frank Bell) 7

How can you buy or sell the sky - the warmth of the land? The idea is strange to us. Yet we do not own the freshness of the air or the sparkle of the water. How can you buy them from us? Every part of this earth is sacred to my people. Every shining pine needle, every particle of sand, every mist in the dark woods, every clearing and humming insect is holy in the memory and experience of my people.

We know the white man does not understand this. The earth is not his brother, but his enemy, and when he has conquered it he moves on. He leaves his father's grave behind and does not care. He kidnaps the earth from his children. His father's grave and his children's birthright are forgotten. The sight of your cities pains the eye of the red man. But perhaps it is because the red man is a savage and does not understand. There is no quiet in the white man's cities. No place to hear the leaves of spring or a rustle of an insect's wings. But perhaps because I am a savage I do not understand; the clatter only seems to insult the ears. And what is there to life if a man cannot hear the lovely cry of a whippoorwill or the arguments of frogs around a pond at night? The Indian prefers the soft sound of a wind darting over the face of the pond, and the smell of a wind cleansed by a mid-day rain or scented with pinion pine. The air is precious to the red man. For all things share the same breath - the beasts, the tree, the man. The white man does not seem to notice the air he breathes.

The white man must treat the beasts of the land as his brothers. I am a savage and do not understand any other way. I have seen a thousand rotting buffaloes on the prairie left by white men who shot them from a passing train. I am a savage and do not understand how the smoking iron horse can be more important than the buffalo. What is man without the beasts? If the beasts were gone, man would die from great loneliness of spirit, for whatever happens to the beasts also happens to man. Whatever befalls the earth befalls the sons of earth. One thing we know which the white man may one day discover: Our God is the same God. You may think you own him as you wish to own the land. But you cannot. His compassion is equal for the red man as for the white: the earth is precious to Him. To harm the earth is to heap contempt on its creator. The whites too shall pass - perhaps sooner than the other tribes. Continue to contaminate your bed and one night you will suffocate in your waste. When the buffalo are slaughtered, the wild horses are tame, the secret corners of the forest, heavy with the scent of many men, and the view of the ripe hills blotted by falling wires - where is the thicket? Gone. Where is the eagle? Gone. We might understand if we knew what it was the white man dreams, what hope he describes to his children on long winter nights, what visions he burns into their minds so that they will wish for tomorrow. But we are savages. The white man's dreams are hidden from us. We will go our way if we agree it will be to secure the reservation you have promised. There perhaps we may live out our brief days as we wish. When the last red man has vanished from the earth and the memory is only the shadow of a cloud moving across the prairie, these shores and forests will still hold the spirits of my people, for they love this earth as the newborn child loves his mother's heartbeat. If we sell our land, love it as we've loved it. Care for it as we've cared for it. Hold in your mind the memory of the land as it is, when you take it, and with all your strength and might and heart preserve it for your children and love it as God loves us.

One thing we know though we are savages. Our God is the same God. The earth is precious to him. Even the white man is not exempt from his common ancestry.

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